

THE BRITISH SPECIES OF *STEGANA* MEIGEN
(DIPTERA: DROSOPHILIDAE) — DELETION OF
S. FURTA (LINNAEUS) AND ADDITION OF FOUR
SPECIES OF THE *COLEOPTRATA* (SCOPOLI) GROUP

By PETER J. CHANDLER*

Two species of *Stegana* have been included in the British list (e.g. Fonseca, 1965; Kloet & Hincks, 1976) under the names *Steganina coleoptrata* (Scopoli, 1763) and *Stegana furta* (Linnaeus, 1766). Most authors have regarded *Steganina* as a sub-genus of *Stegana* and this view is followed here.

Laštovka & Máca (1982) have provided an excellent revision of the European and north American species of sub-genus *Stegana* sensu stricto and of the *coleoptrata* (Scopoli) group, which encompasses all the species of *Steganina* known from these regions. While *S. furta* is the only European species of the typical sub-genus, seven European species have been discerned in *Steganina* (one of them Holarctic in distribution, two others also found in Japan) in addition to 3 species recorded only from north America.

Stegana (sensu lato) are slender bodied with the thoracic dorsum and abdomen ranging from yellowish brown to blackish brown. In *Steganina* the pleura are usually pale yellow below and with a broad dark stripe above and the face is partly pale with a dark transverse band but these parts are not particoloured in *Stegana* sensu stricto. The legs and halteres may be yellow or partly darkened. The broad wings, with strong veins and a brownish or blackish tinted membrane, are usually held curved down over the sides of the body when the fly is at rest.

They are associated with decaying trees and may be seen settled in crevices of tree trunks, visiting sap flows or swept around fungus encrusted dead wood. Laštovka & Máca (1982) summarised life history data, which suggested that some species may be associated with particular trees but many earlier records including rearing from under bark of various trees, required confirmation of specific identity. There appear to be some differences in habitat between the species here established as occurring in Britain but these do not always correspond to the European data on these species.

The association of "*coleoptrata*" with the fungus *Hypoxylon fragiforme* (Pers. ex Fr.) Kickx. (= *coccineum* Bull. ex Fr.) cited by Chandler (1978) was based on rearings by P. A. Buxton and myself from beech bark attacked by this fungus. The specimens from both rearings have now proved to be *S. nigrithorax* Strobl. Some *Amiota* species certainly develop in similar hard wood en-

*Weston Research Laboratories, Vanwell Road, Taplow, Maidenhead, Berks.

crusting fungi but it is unclear whether the larvae of *Stegana* have a definite association with fungal fruiting bodies or merely develop under bark attacked by the fungus.

Although easily recognised as a genus, all *Stegana* species look very much alike and there had been much nomenclatorial confusion in the literature. Duda (1934) recognised only one species in *Steganina* but included under it some named varieties which were of uncertain status. One of these, *stroblii* Mik, was recorded in error from north Scotland by Basden (1954), resulting in its citation as British by Bächli & Rocha Pité (1982) who recognised it as a distinct species. The material referred to by Basden belongs to the true *coleoptrata* while *stroblii* is synonymous with the much larger species *hypoleuca* Meigen.

The species composition worked out by Laštovka & Máca differs from that in the recent Palaearctic Catalogue (Soós et al., 1984) in that *hypoleuca* Meigen and *nigrithorax* Strobl are raised from synonymy under *coleoptrata* and replace the names *stroblii* Mik and *excavata* Okada respectively. The latter species and *longifibula* Okada were newly recorded from Europe. Two other species, *baechlii* and *similis*, were described as new. The usage of the name *hypoleuca* was based on a Lectotype designation by Laštovka & Máca from two female syntypes; they noted that Meigen had included other species under the name and it should be noted that Meigen's coloured illustrations of *hypoleuca* (Morge, 1975: Plate 269, Fig. 5) probably represent *similis*.

The characters given by Fonseca (1965) to separate *furta* and *coleoptrata* serve to distinguish the sub-genera. Examination of material in British collections has disclosed that at least five of the seven European species of *Steganina* occur here. On the other hand, no British material of *S. furta* has been discovered. Mr. E. C. M. d'Assis Fonseca has informed me that he had not seen British specimens of *furta* but it was included in his key on the authority of J. E. Collin. However, in the Verrall-Collin collection (Hope Dept.) the series under the name *curvipennis* (Fallén), a synonym of *furta*, consisted of *coleoptrata* (Scopoli) while the series under the latter name comprised other species: all were *similis* Laštovka & Máca except one male of *nigrithorax* Strobl. Collin's "*curvipennis*" were all collected later than his declaration (1911) that he had not seen a British specimen of *curvipennis*, "though it must occur in Britain" on the authority of Haliday. Both *coleoptrata* and *furta* were cited as British by Haliday (1856) but without supporting data. Haliday (1833) had described a new species as *Stegana annulata*, which he placed in synonymy under *coleoptrata* in 1856. There is no material of *Stegana* in Haliday's collection (in the National Museum, Dublin) and Laštovka & Máca were thus unable to decide on the identity of *annulata*. Although the description is short, it could only refer to *coleoptrata* of the species known from the British Isles, and this

is also the most likely species to occur in Ireland from its British distribution. Unfortunately, no material of *Stegana* has been collected in Ireland more recently although occurrence in some of the older woods there might not be unexpected.

It is not known on what Haliday based inclusion of *furta* in the British list, but until definite evidence to the contrary becomes available, I consider that *furta* should be deleted from our list. *S. furta* is widespread in central and southern Europe, recorded from dry wooded and open habitats by Laštovka & Máca. I have taken it by sweeping in various habitats, mainly by wooded streams, in Spain and France. It has been reared from birch bark attacked by beetles. The type material of *furta* and its synonym *curvipennis* were, however, from Sweden and all seven species of *Steganina* also occur both in Scandinavia and in central Europe. It is thus possible that both *furta* and the other two *Steganina* may occur in Britain. *S. mehadiae* Duda is another large species similar to *hypoleuca* but with the thorax mainly black above and the wings more evenly darkened, while *S. baechlii* Laštovka & Máca is a small species with the frons strongly narrowed in front, while it is nearly parallel sided in the four small species here recorded from Britain.

Laštovka & Máca figured all aspects of the ♂ and ♀ genitalia of all species recognised by them. The difference between species is small (especially in females) but apparently constant. The lateral view of the clasper ("surstylus" or gonostylus) provides the readiest means of separating species and, if the hypopygium is deflected before drying, can be used to recognise dry specimens. External characters are less constant and the key provided by Laštovka & Máca requires great care in interpretation. The British material examined may be sorted on the basis of the following key, in which *furta* is included for convenience, but examination of genitalia is desirable for confirmation. Teneral examples with less pronounced colour characters are frequently encountered.

Key to British species of *Stegana*

- 1 Longer eye axis vertical, frons and face making obtuse angle in profile (Fig. 2). Mesonotum and abdomen black, face and pleura blackish without distinct pattern. Palpi dark. Frons dull yellow in front without dark transverse band. Femur I dark apically, II-III mainly dark, tibiae yellow. Wing length ♂ 2.3-2.8, ♀ 3.0-3.3 mm. (sub-genus *Stegana* sensu stricto) *furta* (Linnaeus)
- Longer eye axis more horizontal, frons and face making a right angle in profile (Fig. 1). Body colour various, face pale with a dark horizontal band below, pleura pale below with a broad straight edged longitudinal stripe above. Palpi yellow. Frons shining, with more extensive dark markings. Legs with dark markings more restricted. (sub-genus *Steganina* Wheeler) 2

- 2 Large species, wing length 5.0-5.5 mm in ♀, about 4 mm in ♂. Acrostichals more numerous, in 14-20 rows. Palpi wide, with more than 20 setae. Wing strongly darkened to middle of cell r4+5, paler behind. Mesonotum yellowish orange, sometimes with darker markings on disc. Frons with dark markings on disc not separated from subapical dark markings, more extensively orange near vertex. *hypoleuca* Meigen
- Smaller species, wing length less than 4.0 mm in ♀ and 3.5 mm in ♂. Acrostichals in 8-10 rows. Palpi narrower, with less than 15 setae. Wing darkened in cell r1 and anterior part of r2+3, then progressively fading behind but entire wing more suffused than in *hypoleuca*. 3
- 3 Thorax blackish on mesonotum and scutellum. Halteres with knob more or less darkened. Frons almost entirely dark with markings on disc fused with deeper black subapical band, only small pale spots about proclinate bristles. Legs with femur I dark apically, II-III black on apical half, tibiae II-III with dark bands basally. Wing veins more blackish. *coleoprata* (Scopoli)
- Thorax with mesonotum yellowish brown on ground with more or less extensive dark brown discal markings. Halteres with knob yellow (knob brownish apically in some examples). Dark markings on disc of frons usually more separate from subapical black band. Wing veins more brownish. 4
- 4 Mid and hind legs with femora and tibiae bearing distinct brown to black bands on apical half of femur and basal half of tibia. Genae wider, ratio of short diameter of eye to their maximum width (in profile) less than 3, subequal to width of third antennal segment. Frons with orbits as well as transverse area above subapical black band yellow. *nigrithorax* Strobl
- Mid and hind legs with femora and tibiae bearing at most vague light brown bands in these positions. Genae narrower, ratio of short diameter of eye to their maximum width 3 or more, generally narrower than third antennal segment. 5
- 5 Thorax with mesonotum lighter yellowish in front and at sides, with more or less confluent dark stripes on disc. Third antennal segment more ovoid, with rounded tip. Colouration of frons similar to *nigrithorax*. *longifibula* Okada
- Thorax without distinct stripes, shining dark brown markings covering most of disc not so clearly contrasted with pale areas. Third antennal segment more elongate oval, not broadly rounded apically. Frons with dark discal area extending to bases of reclinate orbital bristles, but broad yellow areas around bases of proclinate bristles. *similis* Laštovka & Mác

Stegana are rarely found by general collecting because of their close association with decaying wood. They are, however, widespread in wooded areas and it is hoped that the present work will stimulate further study of the distribution and biology. The limited material studied is located in the collections acknowledged below and in that of the author. Because distribution of each species is as yet uncertain, all localities known to me are cited under each species. Flight periods stated include all months between the dates given.

Stegana hypoleuca Meigen

Stegana hypoleuca Meigen, 1830

Stegana stroblii Mik, 1898 (syn. Laštovka & Mác, 1982)

The record of *stroblii* by Basden (1954) being referred to *coleoptrata*, only a single British example of *hypoleuca* has been examined. This fine specimen was swept from birch foliage in a pure birchwood, but an extensive search failed to reveal further individuals. Laštovka & Máca stated that their Czech material was found on oaks.

Material examined: 1 Scottish ♀, 4 Swedish ♀.

TAYSIDE (Perthshire): Struan Wood., 12.vi.1982 (I. F. G. McLean, in his collection).

***Stegana coleoptrata* (Scopoli) (fig. 4)**

Musca coleoptrata Scopoli, 1763

? *Stegana annulata* Haliday, 1833

The most widespread *Stegana* in Britain, although less frequent than *similis* in the south. Several localities are birch woodland and it has been beaten from birch foliage. Other records are from mixed woodland and Collin took both this and *similis* in his garden at Newmarket. The Windsor example was a female taken at oak sap by Mr. A. A. Allen. Basden (1954) recorded a series of both sexes of *coleoptrata* (material in Royal Scottish Museum, examined), taken by O. W. Richards at Beinn Eighe on 8.vii.1953 on a dead fallen birch bearing *Stereum* species.

Material examined: 10 ♂, 12 ♀. 10.vi.-7.ix.

ROSS: Beinn Eighe; near Gairloch, above Loch Shieldaig. INVERNESS: Speybridge; Nethy Bridge; Cannich. MORAY: Grantown. LEICS: Ulverscroft. CAMBS: Cambridge; Woodditton Wood; Chippenham Fen; Newmarket; Abbots Wood. BERKS: Windsor Forest. SURREY: Chobham Common. W. KENT: Tunbridge Wells.

***Stegana longifibula* Takada (fig. 6)**

Stegana longifibula Takada, 1968

This is the least well known of the smaller British species and its precise habitat cannot yet be stated. An apparently southern species in Britain.

Material examined: 6 ♂, 4 ♀. 28.vi.-27.viii.

HEREFORD: Mains Wood; Monnow. SALOP: Broseley. CAMBS: Cambridge. E. KENT: Blean Wood; Woolwich Wood.

***Stegana nigrithorax* Strobl (figs. 1, 3)**

Stegana coleoptrata var. *nigrithorax* Strobl, 1898

Stegana excavata Okada, 1971 (syn. Laštovka & Máca, 1982)

Principally found in beechwoods, around decaying logs and stumps and the larval association mentioned above may be regular. It appears to be frequent at least in the south. Buxton reared a male (in British Museum (Nat. Hist.)) in v.1955 from beech bark bearing *Hypoxylon* collected at Gerrard's Cross. I reared a male on 28.xii.1971 from beech bark bearing the same fungus collected at Saver-nake on 29.ix.1971. These emergence dates are no doubt abnormal.

Material examined: 12 ♂, 14 ♀. Early vii-4.ix.

DUMBARTON: Balmaha. CUMBRIA: Windermere. HEREFORD: Mains Wood. GLOUCS: Bristol; Inglestone Common. WILTS: Farley; Odstock; Saver-nake Forest. HANTS: New Forest; Selborne Hanger; Alice Holt Forest. DORSET: Studland. BERKS: Windsor Forest. BUCKS: Gerrard's Cross. W. KENT: Cuckoo Wood, Downe; Scadbury Park, Chislehurst. E. KENT: Ham Street Woods.

***Stegana similis* Laštovka & Mácá (fig. 5)**

Stegana similis Laštovka & Mácá, 1982

This occurs in mixed woodland throughout southern England but appears especially frequent in the New Forest, whence 70 of 106 specimens examined originate. It occurs around rotten wood but nothing more precise is recorded of its biology. Data given by Laštovka & Mácá indicate it to be the most frequent *Stegana* throughout Europe.

Material examined: 20♂, 86♀. 19.vi-5.ix.

SALOP: Broseley. HEREFORD: Cusop. GLOUCS: Chalford; Leigh Woods; Blaise Woods.

SOMERSET: Failand; Ebbor Gorge. HANTS: New Forest; Lymington. OXON: Bix Bottom. BERKS: Unhill Wood. CAMBS. Cambridge; Newmarket; Chippenham Fen. W. KENT: Tunbridge Wells; Cuckoo Wood, Downe. E. KENT: Soakham Down.

***Stegana furta* (Linnaeus) (fig. 2)**

Musca furta Linnaeus, 1766

Drosophila curvipennis Fallén, 1823

Stegana nigra Meigen, 1830

No British material has been examined and this species is deleted from the British list.

Material examined: 5♂, 5♀. 26.v-24.vi.

Spain: HUESCA: Canfranc, pinewood; near Santa Cilia, by Rio

Gas, poplar plantation. LOGROÑO: Villanueva de Cameros, wooded bank of Rio Iregua.

France: ARIÈGE: Ussat-les-Bains, by wooded stream in meadow.
LOT: Rocamadour, meadow by stream.



Fig. 1. *Stegana nigrithorax* Strobl, female.

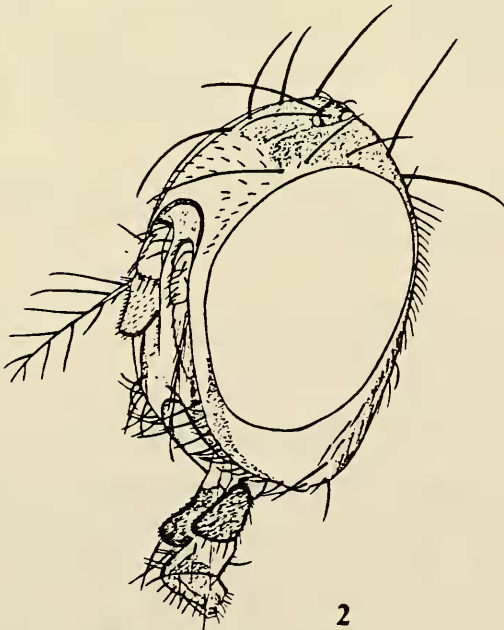
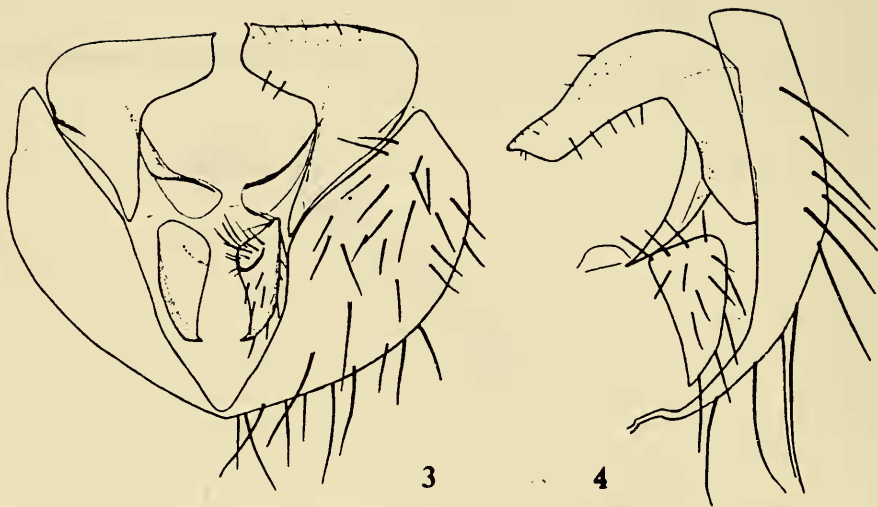
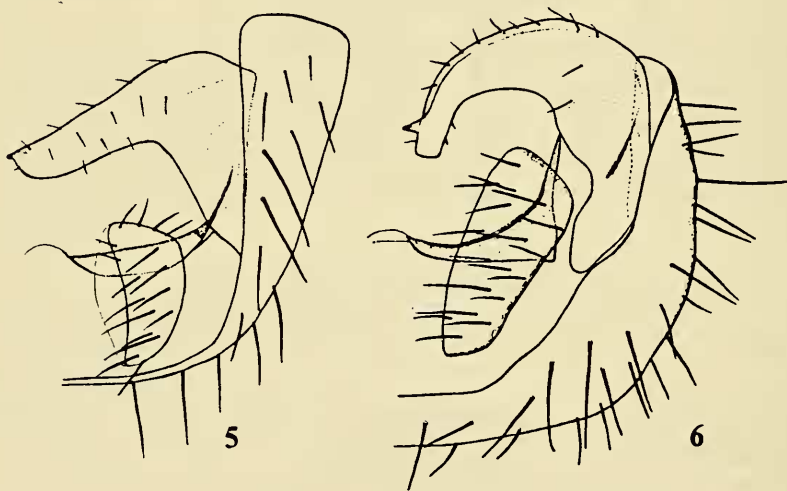


Fig. 2. *Stegana furta* (Linnaeus), head.



Figs. 3-4. Male genitalia, posterior view. — 3. *Stegana nigritorax* Strobl. — 4. *Stegana coleoprata* (Scopoli).



Figs. 5-6. Male genitalia, posterior view. — 5. *Stegana similis* Laštovka & Mácá. — 6. *Stegana longifibula* Takada.

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PAPESTRA BIREN GOEZE, THE GLAUCOUS SHEARS (LEP.: NOCTUIDAE) IN OXFORDSHIRE — I would like to record the finding of a female *P. biren* in a spider's web woven on a down-stairs window-sill on 29th June 1986. I believe this to be the first record for Oxfordshire — E. C. L. SIMSON, Crosbythwite, Plowden Park, Aston Rowant, Oxford.